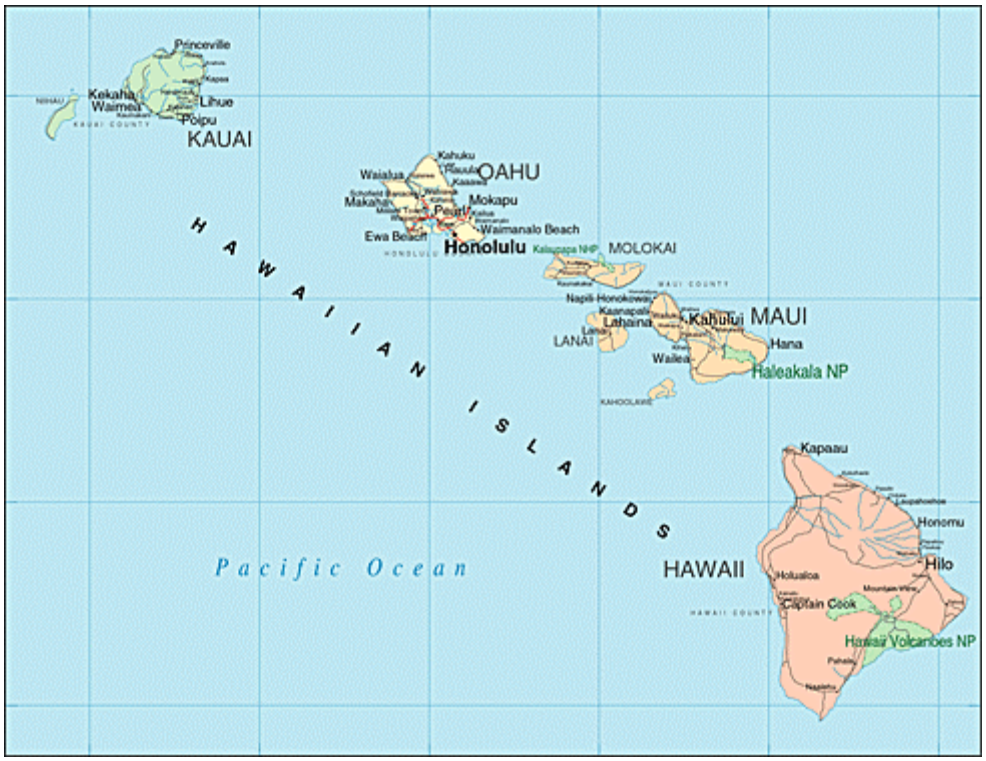
UNIVERSITY OF CALIFORNIA SAN FRANCISCO
CHILD SERVICES RESEARCH GROUP (CSRG)

EVALUATION FRAMEWORKS: HAWAII DEPARTMENT OF PUBLIC HEALTH'S CHILD AND ADOLESCENT MENTAL HEALTH DIVISION (CAMHD)



FUNDED BY: HAWAII DEPARTMENT OF PUBLIC HEALTH'S CHILD AND ADOLESCENT MENTAL Health Division (CAMHD)

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Submitted: June 15, 2004

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Background and Overview

This report summarizes a framework for evaluation of the services provided to the Hawaii Department of Public Health's Child and Adolescent Mental Health Division (CAMHD). This report is a follow-up to a prior review of the evaluation system currently in place at CAMHD. The University of California, San Francisco Child Services Research Group conducted the review at the request of the CAMHD. The overall goals of the review were to: 1) examine the current evaluation system and summarize its advantages and disadvantages; 2) provide consultation regarding how to maximize the value of the current system, and 3) provide options for future directions. This report focuses primarily on the second and especially third goals with a prior report focusing on the first goal. This report derives from meetings held at CAMHD in the winter of 2003.

It is essential to note that the services provided by the CAMHD are diverse, and include a range of interventions and programs. The range of potential outcomes and indicators for an evaluation of such a system is similarly broad and varied. Consequently any program of evaluation research conducted under such circumstances necessarily involves making choices regarding emphases and direction. These choices are often driven by the goals of the service system, by the audiences for the information, as well as by pragmatic considerations. This report will provide both ways of examining data already collected by CAMHD as well as directions for future potential data collection efforts. It is guided by a model for evaluating children's services developed at UCSF.

A Model for evaluating services provided to Children and Adolescents with Multi-system needs

A system of care is, at its core, a systemic, policy oriented change in the structure and delivery of services. An understanding of the multiple levels of a system of care is essential to developing a framework for the kind of policy-relevant research needed by CAMHD. By any definition, a system of care is a complex strategy for system reform. Although human service systems can be analyzed from a wide range of perspectives, current research on systems of care tends to focus on three levels of analysis: (1) the systems level, (2) the programmatic level, and (3) the practice level. The services provided by CAMHD are undergoing alterations across all three levels.

The systems level refers to the structure, organization, and financing of services. There are many examples of systemic reform in health services. For example, managed care is predominantly a reform that occurs at the system level, where fiscal changes (such as capitation) and structural changes (such as utilization review) are put in place to provide more efficient service delivery. Over the past decade, systemic reform in the delivery of children's mental health services has been promulgated largely through the system of care approach. The system of care model emphasizes many systems-level alterations including: developing linkages between child serving agencies (e.g., Mental Health, Juvenile Justice, Child Welfare, and Education), using community-based care in lieu of restrictive placements, developing a continuum of services, restructuring service

financing (i.e., blended funding pools), and creating interagency policy and treatment teams for coordinated care.

Systems of care are also composed of program-level interventions that can include traditional clinical services (such as outpatient and inpatient care) or more innovative, integrated services (such as therapeutic foster care, case management, and special day school programs). Regardless of the level of innovation at the program or system level, the ultimate success of any care is at least in part dependent on what occurs at the practice level. This level refers to the ways in which care providers interact directly with children, their families, and their support systems. Practice level interventions in a system of care include a range of traditional, office-based psychotherapeutic approaches such as cognitive-behavioral therapy, family therapy, and play therapy as well as less traditional models such as Multisystemic Therapy (MST).

Three Key Components of Health Services Research: Effectiveness, Efficiency, and Equity

The knowledge typically generated by health services research regarding the impacts of systemic, programmatic, or clinical service level reforms can be grouped into three broad categories: effectiveness, efficiency, and equity. Effectiveness focuses on the benefits to people's health provided by health care. The second research domain, efficiency, has two key dimensions: productive efficiency (producing services at the lowest cost) and allocative efficiency (maximizing health given constrained resources). The drive for efficiency is a powerful force in the creation of public policy and a key factor in the adoption of efficacious treatments in children's mental health. Concerns regarding the efficiency of service delivery can easily drive whether interventions are adopted in communities or service systems, regardless of the strength of evidence for their effectiveness. Finally, equity relates to health disparities and the fairness and effectiveness of procedures for addressing these inequities. At the most fundamental level, equity has to do with fair access to appropriate and effective services. Systems of care for children were created, in part, because of clear inequities in the provision of services to youth with severe emotional disturbance. The Felix consent decree in Hawaii had a considerable focus on concerns regarding equity of service delivery. Equity with regard to gender, ethnicity, and age is critical in systems of care. Services are provided to address cultural competence and disparities in service delivery so that diverse, younger, and transitional age youth and their families receive a full continuum of services.

The goals of effectiveness, efficiency, and equity can collide and produce contradictory information. A service system may be highly efficient yet ineffective and inequitable. The current emphasis in children's mental health on the translation of treatments found efficacious in laboratory settings to community settings is certain to produce many conflicts between these goals at multiple levels. The most obvious conflicts relate to the cost of efficacious services. Many of the treatments with the most convincing data regarding efficacy are clearly resource intensive, requiring extensive training and low caseloads when compared to standard practice outpatient care. However, such services may be less costly and more efficient than higher levels of care. Similarly, some

efficacious treatments may create serious problems with regard to equity. Such treatments may not be effective or applicable to certain sub-populations of youth, or they may be so costly as to reduce the operational capacity of a service system. Subtle to sophisticated interactions between effectiveness, efficiency, and equity must be understood if efficacious services are to succeed in community settings.

Developing the knowledge base for a policy analysis of systems of care is complicated and multifaceted since the systems exist across multiple levels, have multiple goals, are mutable by design, and can be judged by a wide range of criteria. Table 1 provides a preliminary framework for this research including the three core elements of health services research (effectiveness, efficiency, and equity) with the three levels of the human service delivery system (practice, program, and system). The table also provides examples of potential areas of focus for research and evaluation efforts when the three levels of service delivery are examined within the three primary domains of health services research.

Table 1.

A Framework for Understanding and Conducting Services Research on Systems of Care and Sample Research/Evaluation Topics

System Goals	Practice Level	Program Level	System Level
Effectiveness	The effect of a clinical intervention on outcomes	The effect of program philosophy/culture on outcomes	The effect of standards of care, service provision, and/or funding on outcomes
Efficiency	The effect of provider productivity on costs	The effects of staffing choices, provider mix, and/or work hours on costs	The effect of fiscal incentives, service system integration, and/or service mix on costs
Equity	The effect of provider choice and decision making on disparities	The effect of program location and accessibility on disparities	The effect of program mix and/or fiscal incentives on disparities

There is growing interest in effectiveness research at the practice level, where empirically-based treatment models are adopted and then tested in community-based clinical settings. Clinical interventions such as MST have been tested within real world clinical settings across several different service systems. There are also a number of examples derived from the program evaluation literature that focus on effectiveness at the programmatic level, such as the effects of organizational culture and climate on children's outcomes. Finally, effectiveness research also exists at the system level; however, the links between service system change and many existing indicators of

effectiveness (such as measures of clinical and functional status) are remote. This discussion has been at the core of the current debate regarding the effectiveness of systems of care.

The predicament in the literature derives from systemic interventions that are expected to improve individual outcomes without clear causal links to alterations in clinical practice—or similarly, to clinical practice interventions that may not alter the characteristics of a service system. However, there is some evidence that specific system-level interventions might impact directly on effectiveness, including those pertaining to standards of care, quality of care, and incentives for the use of effective clinical interventions.

The efficiency of a service system can be measured across the practice and program levels, yet system level reform may have the most direct impact on efficiency. For example, the use of restrictive levels of care may be discouraged through systemic emphases on interagency collaboration, the creation of community-based alternatives, and fiscal disincentives to residential placement. Managed care initiatives that emphasize capitation create the need for allocative efficiency to maximize health benefits within constrained resources. Even without capitation, most children's mental health systems are forced to engage in various attempts at allocative efficiency given constraints on the public and private funding of mental health services. Although systemic interventions are most often associated with producing efficient services, programmatic and practice level interventions have also been shown to effect efficiency. For example, to the degree that an intervention such as MST reduces expensive psychiatric hospital visits while maintaining effectiveness at a lower overall cost, the intervention may be more efficient than hospitalization. The same may also occur within day treatment programs that serve as a substitute for more costly residential care.

Equity or disparities in the delivery of children's mental health services can also be addressed through interventions occurring across all levels of the children's service delivery system. At the practice level, provider choice and decision-making regarding eligibility for services may determine whether services are delivered equitably. Similarly, the nature, philosophy, location and characteristics of a program may determine the equity of a service system. For example, in many service systems, ethnic-specific programs are located close to where people of that ethnicity reside. Systemic issues may also broadly influence equity: access to children's services can be predicated on eligibility for various funding mechanisms such as Medicaid or private insurance. Disallowing, for example, mental health coverage for migrant workers will affect whether these workers and their children receive services.

Applying the Model to CAMHD Services and Evaluation

This model guided a review of current and potential indicators for the evaluation of the services provided by CAMHD. A fairly comprehensive list of indicators derived out of this review, which was done collaboratively between UCSF and CAMHD staff. Not all these indicators could be utilized in any evaluation system, so the point is not to create a

system that utilizes all potential indicators. Rather, the goal is delineate what is possible, so that choices can be made my CAMHD staff over time. Some indicators may be immediately applicable, and some indicators may be relevant only as the service system evolves and changes.

Description of the current evaluation system

The existing evaluation system mirrors those found in many other states in its use of measures of functional status and symptomatology such as the Child and Adolescent Functional Assessment Scale (CAFAS) and different versions of scales developed in Vermont by Achenbach (the Child Behavior Checklist, Youth Self Report, and Teacher Report Forms). Other measures include an assessment of client satisfaction and the CALOCUS that focuses on living environments. The system, however, is exceptional in two key ways: 1) The creative and skillful methods being established to package and use information from these measures for clinical decision making; and (2) The creative integration of management information system data on service utilization with measures of functional status to create clinical decision making tools.

The Felix Consent Decree has driven the evaluation system at CAMHD. The decree included court oversight of services delivered by both the Department of Education (DOE) and CAMHD where DOE delivers school based services (e.g. assessment, special education, & outpatient) and CAMHD brokers high-end services through a network of treatment providers. Evaluations have focused heavily on service appropriateness, timeliness, and quality, and less so on system integration with DOE and other partner agencies. Five of the nine statewide performance measures are directly related to service, with two others dominated by service concerns focusing of personnel and stakeholders. Billing and infrastructure round out the nine performance areas.

Service level evaluation measures include billing, frequent outcome assessment (e.g. CBCL), sentinel events reporting (e.g. client event of physical assault, institutional event of medication error), program performance indicators completed by providers of various types (e.g. hospital treatment, Intensive In-Home), and case-based reviews on randomly selected youth served by each provider. Much of the individual level data is available on a day-to-day basis as decision support for clinical directors and other staff (e.g. dashboard clinical reports), monthly in aggregate form to monitor branch performance, and/or rolled-up various levels (e.g. provider, branch) for inclusion in reports (e.g. annual performance report) that inform policy and strategic planning.

System level measures include monitoring data collection performance on the various individual level measures of service, case-based reviews having a large interagency component with DOE, and utilization management reports on placements. System level information about who does what, where, and how often is not monitored as extensively as services, however significant efforts have been made to create policies and procedures to set the ground rules for system interaction.

Indicators of Equity, Efficiency and Effectiveness in Hawaii

A set of tables was developed that summarize the range of indicators for equity, efficiency and effectiveness. Each table delineates the range of indicators for a domain by the system, program, and practice levels of the service system. The list of indicators for each domain is extensive and key potential indicators will be highlighted. It was also decided that system level indicators needed to be broken down into two levels: The broader interagency system (termed the "Big System") and the smaller system of services provided more directly by CAMHD termed the "Little System". Finally, indicators are color coded based on whether the indicator is currently used by CAMHD (blue), UCSF (red) or still needs to be developed (black).

Equity Indicators

Table 2 summarizes a set of potential equity indicators derived from a collaborative process between UCSF and CAMHD for children's mental health services in Hawaii.

Table 2. Equity Indicators

Big System	Little System	Program	Practice/Clinical
• Out of Home Placements (OOH) • Incarceration Rates • Collaboration Scale • MH Penetration into sister agencies • Interagency Involvement by Demographics • Waitlist Analysis • Other system Data – DHS placements with MH involvement -All youth in DHS placements • DHS Involvement • Court hearings	• Medicaid penetration rate – Define for CAMHD • General population penetration by demographics - Define for CAMHD • OOH MH Placements • Network Adequecy – Sufficient Providers by region Human Resources – caseloads, providers by type (Discipline, License Status) vacancy rates • Accessibility to services • QAIP Access, availability • QUEST Referral rates • Transition to adult services • Service gaps and mismatches • Respondent Director Perception	• Penetration by program • Respondent Perception • Human Resources • QUEST Referral Rates by FGC • Demographics • OOH Placements/ ServiceMix by FGC • Penetration into other agencies • Waitlists Analysis • SED Criteria Availability	• Referral and Acceptance Practices by demographics • Freq. & Duration of Services by Demographics • Human resources- case loads, vacancy, stability/mobility of each youth's case manager • QOC Perception • Collaboration- Interagency

Currently used by CAMHD (blue)
Currently used by UCSF (red)
To be developed (black)

Summary of Equity Indicators

Although Table 2 contains what at first appears a potentially overwhelming amount of complexity, in reality the indicators are somewhat simpler than might initially appear. Out of home placements, penetration rates, waitlists, and demographic analyses exist across levels of the service system with the definitions varying depending on the manner in which each level impacts on equity. Penetration rates, for example, can include penetration rates into a broad geographic area such as an Island or the state or into other agencies (Big System), into a defined service population such as Medicaid recipients (Little System) or into a smaller region or population served by a program. Demographic analyses can be conducted for the system as a whole, for individual programs, and for individual clinicians.

In sum, the equity indicators focus most intensely on penetration and access either for the Islands as a whole, for specific geographic areas, or for particular subpopulations. The second key set of equity indicators focus on accessibility to services by demographic characteristics, especially age, gender, and ethnicity. In general, CAMHD has focused the least on the Big System interagency indicators with more focus on the Little System equity indicators. Considerable work is done at the program level and, though the indicators are limited, considerable work is also done at the practice level.

Efficiency

Table 3 presents an overview of the potential efficiency indicators developed for the services provided in Hawaii.

Table 2: Efficiency Indicators

Big System	Little System	Program	Practice/Clinical
• Outcome per dollar • N served per dollar • High end Utilization • Cost of Incarceration • Respondent Director Perception - caseloads • Other system data • Youth placed by region • Average cost per child per year -Number served -Costs for incarceration -Number served • Collaboration scale • Transitions - multiple case managers	• Respondent Director Perceptions • Revenues • MH Service dollars, • Overhead dollars • Timely payment to providers • Service Mix – OOH, IIH, etc. over time • Transitions -between providers -to adulthood • Consistency of PMS targets across providers • Interagency Involvement • Admission and D/C survival • QUEST referral by training, outreach dollars • Capacity/occupancy (OOH IIH) • PISC & EEMT Indicators met statewide • Identify possible cost shifting avenues	• Respondent Perceptions • Youth referred for QUEST per staff activity outreach • On-budget/ off-budget overhead • MH Service dollars aggregated by youth or by provider • Overhead by FGC • PMS target consistency • CSP by FGC • Admissions and D/C by providers • Service Mix by FGC • Identify possible cost shifting avenues	• QOC Perception • MH Service dollars by clinician (outlier clinician, practice elements) • Training dollars • Frequency and Duration of services • Referral Practices

Currently used by CAMHD (blue)
Currently used by UCSF (red)
To be developed (black)

Summary of Efficiency Indicators

The most striking aspect of the efficiency indicator table is that CAMHD uses few if any indicators of efficiency at the big system, interagency level. There are a fairly wide range of efficiency indicators at the little system, programmatic, and even practice levels, though there is room for additional work in those domains. The key questions for CAMHD and Hawaii (and many other jurisdictions), therefore, evolve around the concepts of whether and how costs are shifted between service systems in unknown ways. Expenses provided in another service system could offset fewer resources in one service system or in a particular funding source. A common example is the use of AFDC dollars to place youth in relatively costly settings. Although such placements may save resources in mental health or other related agencies, the overall costs of such placements may well exceed the costs of alternative service delivery strategies. Consequently, examining costs from a single agency perspective can lead to overall confusion regarding what the total costs of services are for a particular population.

Indicators of Effectiveness

Table 4 presents the final set of indicators pertaining to the effectiveness of the services delivered. Effectiveness indicators are often considered to reside primarily or solely at the practice level, however they can span all levels of the service system.

Table 4: Effectiveness Indicators

Big System	Little System	Program	Practice/Clinical
• Frequency and duration of substance use • Respondent Perception • Educational Attainment and Achievement and Attendance • JJ Recidivism • Ed Attain & Achieve • Attandance – Expantions/ Suspensions • CPS referrals • Substance Abuse • CAFAS - substance abuse • PMS – sub Target • SubAbuse Dx • Collaboration scale • Other System Data JJ recidivism (sample) -only those receiving service -court hearing sample -not probation violation -sustained petitions	• Child Status • Satisfaction-complaints • Utilization Outcomes-readmission • Educational and JJ for MH Youth Sample • Freq & Duration of substance abuse • EBS Indicators-Dissemination Activities • Case-Based Review System Status • Respondent Director Perception	• Culture and Climate • Staff complaints (culture and climate) • JJ Recidivism for FCLB • Substance abuse for Bobby Benson • CAFAS, ASEBA, CBCL • Sentinel Events • Overall FGC Quality (% of indicators and internal review) • Overall provider quality • Wraparound fidelity • Respondent Perception	• QOC Perception • Treatment practices matching EBS Recommendations • Overall CSP Quality • MH Case Coord. Practices - school visits, home visits, meetings • Consultation – number and topic of requests • Child Status CAFAS, ASEBA, CALOCUS

Currently used by CAMHD (blue)
Currently used by UCSF (red)
To be developed (black)

Summary of Effectiveness Indicators

In general, extensive use is made in Hawaii at CAMHD of effectiveness indicators, particularly at the practice, program, and Little System levels. Relatively less use is made of big system interagency indicators such as juvenile justice recidivism and educational attendance and achievement. Data collected at the practice level can be aggregated to the program and system levels, though care must be taken in doing so. The goals of the interventions at each level need to match the data collected and the way in which the data are analyzed if any change is to be detected. Scores on clinical functioning measures such as a CBCL, for example, are unlikely to be directly impacted by a systemic change such as controlling residential placements.

Relationships between Efficiency, Effectiveness, and Equity

The three tables present efficiency, effectiveness, and equity indicators as independent constructs for ease of understanding. However, indicators across these three domains can be analyzed together. For example, indicators of effectiveness and efficiency are often combined to obtain measures of cost-effectiveness or cost-benefit. Indicators of equity can be combined with efficiency or effectiveness data to determine relative costs or outcomes for specific sub-populations such as ethnic groups or age groups. Potentially relevant indicators that cross the efficiency, effectiveness, and equity domains for CAMHD include, but are not limited to:

- Cost per year per child served
- Cost per year per year per ethinic, age, gender groups
- Costs of services provided to youth by system involvement
- Costs of expanding access to specific groups and populations
- Costs associated with averted placements and incarcerations
- Costs associated with averted CPS referrals
- Cost effectiveness (relative cost of one intervention compared to another with comparable outcomes)
- Cost benefit (outcomes are equated to dollars and comparisons are made)
- Outcomes by age, gender, ethnicity
- Outcomes by type of service involvement
- Relationships between varying types of outcomes (e.g. clinical status compared to recidivism or educational attainment)
- Relationships between different types of service mix and outcomes
- Costs and outcomes of different service mix strategies
- Impact on access or penetration rates by service mix and service types

Selecting Indicators

The range of relevant indicators is large and care must be taken to select those most appropriate to the goals of the service system. In our meetings at CAMDH, we selected indicators that appeared in reports generated by CAMDH. This selection was based largely on a matching of goals, informational needs and data availability at the time. In

reality, the ultimate choice of which indicators to select will rest on some combination of the goals of the service system, the desired impacts, the availability of indicators, and the available resources. However, the success of these strategies relies on the congruence between goals, desired impacts, and the availability of quality measures or indicators. As care systems evolve, so to must measurement strategies. For example, system reform may begin by focusing on creating interagency teams and placement screening processes. The goal of these new interventions may be to reduce placements in restrictive levels of care. Consequently, the ability of youth in the care systems to remain in home becomes a critical measure of system outcome given these new interventions. Although it may be desirable to measure other outcome domains, reductions in rates of placements may not translate into reductions in symptomatology. As the care system evolves, however, and begins interventions at the level of the child and family that are designed to reduce problematic behaviors in the youth so that they can be maintained in their homes, then measures of symptoms may become important outcomes.

It is important to achieve consistency between the goals, the target populations, and the outcomes of a care system. For example, if a care system is attempting to keep youth in school, then there ought to be programs targeted specifically toward helping a defined group of children reach that goal. Further, measures need to be incorporated into an ongoing evaluation of the care system to assure that the goal is met and that relevant audiences can be convinced of the utility of the program. In the case of keeping youth in school, such audiences might naturally include board of education members.

Conclusions

This report provides a summary of thirty-six sets of indicators relating to the efficiency, effectiveness, and equity of the services provided at the large and small system, programmatic, and practice service levels. The resulting set of over a hundred potential indicators illustrates both the potential complexity of evaluating a service system as well as the inherent complexity that exists within large service delivery structures. The list of indicators need not be overwhelming. CAMHD has already made considerable progress at collecting and analyzing those indicators that have pertained most directly to their missions and goals under the Felix consent decree. As noted in our prior report, the fundamental challenges reside in creating effective indicators at the “Big System” interagency level. Indicators of effectiveness at the Big System level, of efficiency as captured by potential cost sharing and cost-shifts across agencies, and of equity as reflected in penetration rates into partner agencies are immediate directions with potential benefit to the service system. Such indicators are likely to be particularly relevant post Felix.

Finally, the indicators provided in this report are likely to have differential value over time as the service system evolves. The goals of the service system, and of all the stakeholders must be matched with who is served and the indicators chosen. Otherwise, much data can be collected that has little to no relevance to those making key policy or service system decisions. CAMHD is well positioned to expand already exceptional work in the cross-system domains, and to inter-relate indicators of efficiency, effectiveness,

and equity in ways that are rarely done in other locales. Increased attention to interagency indicators, and to analyzing existing data across the levels of the service system, can serve CAMHD well in the post-Felix era.